

1

2

3

2

3

4

Clean Version of Amended Claims

- 6. A method for cleaning a metal contact region of a semiconductor substrate, comprising exposing the metal contact region to hydrofluoric acid vapor and water vapor in a process chamber held at temperature and pressure conditions that are controlled to form on the substrate no more than a sub-monolayer of reactants and products produced by the vapor as the metal contact region is cleaned by the vapor.
 - 9. The method of either of claims 7 or 8 wherein the process chamber temperature and pressure conditions are controlled to form on the substrate no more than a saturated monolayer of etch reactants and products produced by the vapor as the oxide is etched by the vapor.
 - 10. The method of either of claims 7 or 8 wherein the process chamber temperature and pressure conditions are controlled to form on the substrate no more than a sub-monolayer of etch reactants and products produced by the vapor as the oxide is etched by the vapor.
 - 15. The method of any of claims 12, 13, or 14 wherein the process chamber temperature and pressure conditions are controlled to form on the substrate no more than a sub-monolayer of etch reactants and products produced by the vapor as the oxide is etched by the vapor.
 - 23. The method of claim 22 wherein the process chamber temperature and pressure conditions are controlled to form on the substrate no more than a saturated monolayer of etch reactants and products produced by the vapor as the oxide is etched by the vapor.

Alo 1 Con 2

4

24. The method of claim 22 wherein the process chamber temperature and pressure conditions are controlled to form on the substrate no more than a sub-monolayer of etch reactants and products produced by the vapor as the oxide is etched by the vapor.